

pinnata are described as occurring in the "similar ultimate branchlets." In *L. diegoensis* the compound, terete stichidia are quite unlike the vegetative branches. Yamada (3, p. 246) has pointed out the distinctions between *L. spectabilis* and *L. pinnatifida*, particularly the presence of abundant lenticular thickenings in the latter species. He recognized the presence of a broader and a narrower plant under the name *L. spectabilis*, but did not distinguish them specifically.

Scripps Institution of Oceanography,
University of California, La Jolla,
December, 1943.

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NOMINA CONSERVANDA PROPOSALS FOR TEN GENERA OF TREES AND SHRUBS

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While checking the nomenclature of the forest trees of the United States, I observed that ten generic names of trees and large shrubs now in almost universal use are technically invalid or of questionable validity under the latest International Rules of Botanical Nomenclature (ed. 3, 152 p. 1935. Sixth Internat. Bot. Cong. Amsterdam, Proc. 2 vol. 1935-36). These well-known names are: *Cedrus* Trew, *Abies* Mill., *Coccoloba* P. Br. *ex* L., *Rhacoma* L., *Condalia* Cav., *Fremontia* Torr. (1853), *Pilocereus* K. Schumann, *Cephalocereus* Pfeiff., *Bucida* L., and *Halesia* Ellis *ex* L. The nomenclature of each is discussed here, and it is suggested that these names be submitted at the next International Botanical Congress as *nomina generica conservanda proposita*. To reject these names would cause confusion by requiring a few new generic names and more than a hundred specific transfers. All these names have been adopted in my manuscript, "Check List of the Native and Naturalized Trees of the United States," with the exception of the genera *Cedrus* and *Pilocereus*, which were outside the scope of that paper. As it seems likely that most of these names will be conserved later, there will be more stability in nomenclature by using these well-established names.

"Index Londonensis" (6 vols. 1929-31; Suppl. 1941), an index to illustrations of plants, shows that usage is strongly in favor

of all the names proposed for conservation. In fact, some of the rejected names were not even represented in that compilation.

Six of the names listed above are later homonyms (Articles 60 [3] and 61) and four are later synonyms (Article 60). These homonyms became invalid in 1930 when the rule about homonyms was changed to reject a later homonym even if the earlier homonym is a synonym and not in use. The American Code of Nomenclature (Bull. Torrey Bot. Club 34: 167-178. 1907), also in use in the United States for some years earlier, had contained a similar provision. Previous to 1930, the earliest available name was adopted, even if it were a later homonym, provided that the earlier homonym had been rejected as a synonym. Of the names here under discussion the three later homonyms named for persons were given to genera a second time because the earlier names were found to be synonyms.

As Rehder, Weatherby, Mansfeld, and Green (Kew Roy. Bot. Gard. Bull. Misc. Inform. 1935: 341-544. 1935) stated, the homonym rule was changed with the definite understanding that all well-known generic homonyms should, as far as possible, be adopted as *nomina conservanda* under Article 21. These botanists made a systematic search for later homonyms among the seed plants and submitted their list to the Sixth International Botanical Congress at Amsterdam in 1935. The names were divided alphabetically among different persons, but names beginning with the letters D to K were not checked in time to be published. As a result of this and other proposals, additional *nomina conservanda* of seed plants were accepted (Kew Roy. Bot. Gard. Bull. Misc. Inform. 1940: 81-134. 1940). Additional names may be submitted to the Executive Committee at any time, and, if provisionally approved by it, may be retained under authority of the committee pending decision of the next International Botanical Congress (Articles 21 and 22).

Seven of the earlier homonyms and synonyms discussed here were published shortly after 1753 in rare works which did not use binomials. One was published by Miller (Gard. Dict. abridged, ed. 4, 3 vols., illus. 1754). Druce (Bot. Exch. Club Soc. Brit. Isles Suppl. 1913: 426-436. 1914) restored the generic names of that work. Two were published by Duhamel (Traite Arbr. Arbust., 2 vols., illus. 1755). Nieuwland (Am. Midland Nat. 1: 16. 1909) called attention to the genera of that reference. Another name mentioned here was published by Trew (Herb. Blackw., Cent. 2, illus. 1754), a work revived also by Nieuwland (Am. Midland Nat. 1: 221-224. 1910). Three were in the well-known work by Patrick Browne (Civ. Nat. Hist. Jamaica, 503 pp., illus. 1756).

Genera in these books are accepted by most modern authors, though Article 67 (3) and Example (2) raise some questions

about names of this kind. It would have been simpler in the beginning to have rejected all works not adopting binomial nomenclature, as in an American Code rule. Genera appearing in these works were without species and thus had no species from which a type could be selected. Some of the names were genera of pre-Linnaean authors that were accepted by later workers anyway. However, a few of these rare books contain different generic names that technically invalidate the later homonyms and synonyms now in use, though most of these names have been detected. Proposals to reject generic names published in works after 1753 not adopting binomial nomenclature were defeated by large majorities at the Congresses in 1905 and 1930. It is not likely that a similar amendment would be accepted now. Wilmott (Kew Roy. Gard. Bull. Misc. Inform. 1935: 66, 90-92. 1935; Sprague, Synop. Prop. Nomencl. Sixth Internat. Bot. Cong. 15, 77-78. 1935; Sprague, Prel. Opin. Nomencl. Prop. Sixth Internat. Bot. Cong. 508. 1935), proposed that a list of works of this kind contrary to the rules be regarded as not validly published. His list included the books of Miller and Browne mentioned below but not some other rare works cited here. If the rule applied only to a definite list of books, there would still be a few other, rarer books, such as those cited in this paper, containing unrecorded names. A partial list of these works might cause more confusion than no list at all. Wilmott's proposal was referred to a special committee to report on the effects of its adoption (Sixth Internat. Cong. Bot. Amsterdam, Proc. 1: 338-341. 1936). However, as most of these early generic names have been accepted or rejected in favor of *nomina conservanda*, there would be less confusion now to retain all. Wilmott's proposal would require many changes in the *nomina conservanda* and create more complications in nomenclature. Very few additional early published names probably remain undetected, as the number of rare books has a limit. When earlier names are discovered, the later names affected can be conserved.

When the names of Cactaceae were being checked, it was discovered that present usage of *Cephalocereus* Pfeiff. and *Pilocereus* Pfeiff. is contrary to Articles 51 and 16. Both names as well as the earlier name *Cephalophorus* Lem., are all based upon the same type species, *Cactus senilis* Haworth, and therefore, are synonyms. A search of the literature revealed that Britton and Rose (Contr. U. S. Nat. Herb. 12: 415. 1909; Cactaceae 2: 25. 1920) had observed this fact and that Werdermann (Beiträge zur Nomenklatur. 11. *Cephalocereus* Pfeiff. und *Pilocereus* K. Sch. [nicht Lem!]; Kakteenkunde 1937: 129-130, illus. 1937) had proposed that *Cephalocereus* and *Pilocereus* be made *nomina conservanda*. It seems desirable to summarize here the nomenclature of these genera and to confirm Werdermann's proposal.

There is some question whether it is necessary to conserve *Abies* Mil. and *Cephalocereus* Pfeiff. in order to retain them as valid names. Whether to conserve *Fremontia* Torr. (1853) or accept *Fremontodendron* Cov. instead is a controversial matter, because both names are in use. The other seven names clearly are illegitimate and must either be abandoned or conserved.

The policy of conserving names of small genera is subject to deliberation. These invalid names have not more than five recognized species: *Cedrus* Trew, *Fremontia* Torr. (1853), *Bucida* L., and *Halesia* Ellis. It sometimes is simpler to change a name than to make an exception in the rules, though names of a few monotypic genera have been conserved. However, if there is greater stability in nomenclature by retaining the name of a small but well known genus, the name should be conserved.

Another name in use, *Hopea* Roxb. (Pl. Coast Corom. 3: 7, pl. 210. 1819), family Dipterocarpaceae, is invalidated by an earlier homonym originally applied to a tree species of the United States. *Hopea* Garden *ex* L. (Mant. Pl. 1: 14. 1767) was published with one species, *Hopea tinctoria* Garden *ex* L. This genus was combined in 1791 with *Symplocos* Jacq. (Enum. Pl. Ins. Carib. 5. 1760), and the United States species is *Symplocos tinctoria* (Garden) L'Hérit. *Hopea* Roxb. is in use for a genus of about fifty species in the East Indies, Philippine Islands, and India. This name, which is outside the scope of my study, probably will be considered at the next Congress with the other homonyms from the letters D to K.

The ten generic names herein proposed as *nomina conservanda* are discussed according to the sequence and numbers of Dalla Torre and Harms (Gen. Siphon. 921 pp. Lipsiae. 1900-07).

23. (Pinaceae.) *Cedrus* Trew, Cedr. Lib. Hist. 6., illus. 1757. Not *Cedrus* Duhamel, Traité Arbr. Arbust. 1: 139, pl. 52 and fig. 1755. Not *Cedrus* Mill., Gard. Dict. ed. 7. 1759. Type species: *Cedrus libani* Barre. *ex* Loud., Hort. Brit. 388. 1830.

Nomina rejicienda: none?

Cedrus Trew is a well-known genus of four species of Northern Africa, Cyprus, Asia Minor, and Asia. The name is accepted unanimously and, of course, was adopted by Bentham and Hooker, Index Kewensis, Engler and Prantl, and Dalla Torre and Harms.

Just as there has been confusion in the application of the common name "cedar" to more than one genus, the ancient Greek name κέδρος was used for different genera by early botanists. The earliest use of *Cedrus* after 1753 was by Duhamel (1755), who followed Tournefort (Elem. Bot. 1: 461, pl. 361. 1694) and even copied the latter's drawings in applying the name to species now in *Juniperus* L. (1753). Duhamel (p. xxviii) divided *Juniperus* L. into three genera, *Juniperus*, *Cedrus*, and *Sabina*, but did not use binomials. *Sabina* had been published the preceding

year by Miller (Gard. Dict. abridged, ed. 4, vol. 3. 1754). Trew apparently was the first after Linnaeus to use *Cedrus* in its present sense for the cedar of Lebanon, though he did not make a proper binomial. *Cedrus* Mill. is a synonym of *Cedrela* P. Br. (Civ. Nat. Hist. Jamaica 158, pl. 10, fig. 1. 1756), family Meliaceae. Miller's name was based on a different use of the name *Cedrus* by Plukenet (Almag. Bot. Phyt. 92, pl. 157, fig. 1. 1696) and was adopted in the second edition of his Gardeners Dictionary (1733).

Cedrus Trew is so well established for the cedar of Lebanon and related species that apparently no direct synonyms have been made. It seems better to make this name a *nomen conservandum* than to erect a new generic name, even for only four species.

29. (Pinaceae.) *Abies* Mill., Gard. Dict. abridged, ed. 4, vol. 1. 1754. Not *Abies* Trew, Herb. Blackw., Cent. 2, pl. 198. 1754. Type species: *Abies alba* Mill., Gard. Dict. ed. 8, *Abies* no. 1. 1768.

Nomina rejicienda: none?

Abies Mill. contains about forty species of trees, known as firs, in north temperate regions. The name is in universal usage and was accepted by Bentham and Hooker, Index Kewensis, Engler and Prantl, and Dalla Torre and Harms. *Abies* Trew was published with colored plate for a species of spruce, now included under *Picea abies* (L.) Karst.

Tournefort (Inst. Rei Herb. 1: 585, pl. 353-354. 1700) used *Abies* in the modern sense, but the two ancient Latin names *Abies* and *Picea* have been interchanged at times in the past. For example, Loudon (Arb. Frut. Brit. 4: 2293, 2329. 1838) used *Picea* for the firs and *Abies* for the spruces. However, for many years the present and opposite interpretation has been universal. Apparently there are no direct synonyms. Both *Abies* Mill. and *Abies* Trew were published in works that did not adopt binomial nomenclature. It is uncertain which name appeared first in 1754. If Miller's name was earlier, then it has priority and does not need to be conserved (Article 16). However, because of the uncertainty, it seems best to conserve *Abies* Mill.

Nieuwland (Am. Midland Nat. 1: 221-224. 1910) not only cited *Abies* Trew (1754) but another publication of *Abies* in 1754 in a rare work said to have been by Dom. Robbe and not available to me. He cited this list of plants as follows: "(Dom. Robbe.) Catalogue des plantes usuelles avec une explication des principaux termes de botanique, pour servir d'introduction aux démonstrations commencées dans le jardin de botanique le 27 Juin 1754, sous les auspices de Mgr. le Duc de Chaulnes, etc. A Amiens. 1754." I do not know whether *Abies* in this publication is the same as *Abies* Mill. or *Abies* Trew.

2209. (Polygonaceae.) *Coccoloba* P. Br. ex L., Syst. Nat. ed. 10, 2: 1007, 1367. 1759. Type species: *Coccoloba uvifera* (L.) L., Syst. Nat. ed. 10, 2: 1007. 1759.

Nomina rejicienda: Guaiabara Mill., Gard. Dict. abridged, ed. 4, vol. 2. 1754. *Coccolobis* P. Br., Civ. Nat. Hist. Jamaica 209, pl. 14, fig. 3. 1756. *Naucorephes* Raf., Fl. Tellur. 2: 34. 1845. *Schlosseria* Mill. ex Steudel, Nom. Bot. ed. 2, 2: 531. 1841. *Lyperodendron* Willd. ex Meissn. in DC., Prodr. 14: 168. 1857; as synonym. *Uvifera* (L.) Ktze., Rev. Gen. 2: 561. 1891.

Coccoloba P. Br. ex L. is a large genus of about 130 species of shrubs and trees in the American tropics. This name is in almost universal usage and was accepted by Bentham and Hooker, Index Kewensis, Engler and Prantl, and Dalla Torre and Harms. The later synonyms are not in use.

Guaiabara Mill., a pre-Linnaean genus of Plumier, was proposed in a work without binomial nomenclature. Druce (Bot. Exch. Club Soc. Brit. Isles Suppl. 1913: 405-440. 1914), in calling attention to the genera published in this edition, listed *Guaiabara* (Plum.) Mill. as a synonym of *Coccoloba* L. but made no reference to the later publication of the latter name, which was published in 1759, not 1753. *Guaiabara* was taken up by Boehm. (in Ludw., Def. Gen. Pl. 402. 1760). A variant spelling was *Guiabara* Adans. (Fam. Pl. 2: 277. 1763). Miller's name was adopted in 1922 by House (Am. Midland Nat. 8: 64. 1922), who made three transfers to this genus under the spelling *Guajabara*.

Kuntze (Hort. Cliffs 487. 1738), regarding 1735 as the starting date, adopted the earlier Linnean name, *Uvifera* L.

Several recent authors, such as Small (Fl. Southeast. U. S. 383. 1903; Man. Southeast. Fl. 461. 1933) have taken up the older name and spelling, *Coccolobis* P. Br. Sandwith (Jour. Bot. 78: 99. 1940) held that the two spellings were different names (Article 70). He wrote: "In conclusion, it may be pointed out, with regret, that *Coccolobis* P. Br., according to two good nomenclatural authorities, not merely antedates *Coccoloba* L. but must actually be treated as a different name. The two names are not orthographic variants, since *Coccolobis* has the termination of a diminutive, and *Coccoloba* is thus an illegitimate substitution. We are, therefore, faced with a very large number of necessary transfers from *Coccoloba* to *Coccolobis*, unless it is decided to conserve *Coccoloba*. The discovery of the earliest publication of some of these will not be an easy task, since the 'Index Kewensis' formerly treated the two names as orthographic variants, and so have the American writers (e.g., Britton, Small), who have correctly adopted *Coccolobis*, attributing the binomial to the original author of the species under *Coccoloba*. Even apart from such unintentional new combinations, considerably more than a hundred others will have to be made." He even made (p. 100) the new combination *Coccolobis gymnorrhachis* (Sandwith) Sandwith, based upon *Coccoloba gymnorrhachis* Sandwith.

Linnaeus (Syst. Nat. 2: 1367. 1759) did not intend to make a

new name when he cited Browne as author of the generic name; he omitted Browne's different spelling.

As *Coccoloba* P. Br. *ex* L. is used by most authors instead of *Coccolobis* P. Br. and as there is some question as to whether the two are different names or orthographic variants, it seems best to conserve the later and best known spelling, *Coccoloba* P. Br. *ex* L. Then any new combinations some authors might make would be avoided. With either spelling, P. Browne should be cited as author.

4648a. (Celastraceae.) *Rhacoma* L., Syst. Nat. ed. 10, 2: 896, 1114. 1759. Not *Rhacoma* Adans., Fam. Pl. 2: 117. 1763. Type species: *Rhacoma crossopetalum* L., Syst. Nat. ed. 10, 2: 896. 1759.

Nomina rejicienda: *Crossopetalum* P. Br., Civ. Nat. Hist. Jamaica 145, pl. 16, fig. 1. 1756.

Rhacoma L. contains ten to fifteen species of shrubs and small trees in tropical America. This name was accepted by Engler and Prantl and by Dalla Torre and Harms (Supplementum) and is well established in use. Some authors include in it the related smaller genera *Myginda* Jacq. (Enum. Pl. Carib. 1. 1760) and *Gyminda* (Griseb.) Sarg. (Gard. and Forest 4: 4. 1891). In Index Kewensis *Rhacoma* L. was placed as a synonym of *Myginda* Jacq., published a year afterwards.

The later homonym *Rhacoma* Adans. is a synonym of a section of *Centaurea* L. (Sp. Pl. 909. 1753; Gen. Pl. ed. 5, 389. 1754), family Compositae, and has not been used by recent authors.

Crossopetalum P. Br. was originally described with a single species in a work without binomial nomenclature. *Rhacoma crossopetalum*, published as a single species of a new genus, was based upon *Crossopetalum* P. Br., which was cited as a synonym and from which the specific name was taken. Thus, *Rhacoma* L. was a deliberate change of name and illegitimate under Articles 16 and 60 (1). The genus *Crossopetalum* P. Br. was restored by O. Kuntze (Rev. Gen. Pl. 1: 117. 1891) to include both *Rhacoma* L. and *Myginda* Jacq. Very few others accepted Browne's name. Among these were Hitchcock (Mo. Bot. Gard. Ann. Repts. 4: 70. 1893) and Small (Fl. Southeast. U. S. 735-736. 1903). The names *Crossopetalon* Adans. (Fam. Pl. 2: 224. 1763) and *Crosso-petalum* Roth (Enum. Pl. Phaner. Germ. 1 [1]: 515. 1827) were given afterwards to a genus, now section *Crossopetalum* DC. of *Gentiana* L. As *Crossopetalum* P. Br. has not been adopted by later authors, the name established in use, *Rhacoma* L. should be retained as a *nomen conservandum*.

4862. (Rhamnaceae.) *Condalia* Cav., Anal. Cienc. Nat. (Madrid) 1: 39, pl. 4. 1799. Not *Condalia* Ruiz and Pavon, Fl. Peruv. Chil. Prodr. 11, pl. 2. 1794. Type species: *Condalia microphylla* Cav., Anal. Cienc. Nat. (Madrid) 1: 40, pl. 4. 1799.

Nomina rejicienda: none?

The genus *Condalia* Cav. contains about ten species of shrubs and small trees distributed from Southwestern United States and Mexico to South America. The name is in unanimous usage and apparently has no synonyms but is a later homonym of *Condalia* Ruiz and Pavon. *Condalia* Cav. was accepted by Bentham and Hooker, Index Kewensis, by Engler and Prantl, and by Dalla Torre and Harms.

Condalia Ruiz and Pav. is a synonym of *Coccocipsilum* P. Br. (Civ. Nat. Hist. Jamaica 144, pl. 6, fig. 2. 1756) family Rubiaceae, and was already suppressed when the name was given to a second genus. Cavanilles explained the synonymy and dedicated a new genus to the memory of Antonio Condál. If *Condalia* Cav. is not conserved, then a new generic name with specific transfers would be necessary.

5046. (Sterculiaceae.) *Fremontia* Torr., Smithson. Inst. Contr. Knowl. 5 (1) [6 (2)] (Pl. Frémont.): 5, pl. 2. 1853. Also in Am. Assoc. Adv. Sci. Proc. 4: 191. 1851; *nomen subnudum*. Not *Fremontia* Torr. in Frém. Rept. Explor. betw. Mo. River and Rocky Mts. 91. 1843. Type species: *Fremontia californica* Torr., Smithson. Inst. Contr. Knowl. 5 (1) [6 (2)] (Pl. Frémont.): 5, pl. 2. 1853.

Nomen rejiciendum: *Fremontodendron* Cov., Contr. U. S. Nat. Herb. (Botany Death Valley Exped.) 4: 74. 1893.

Fremontia Torr. (1853) is a small genus of shrubs or small trees restricted to California, Arizona, and Lower California. The number of species of these variable plants is interpreted by different authors as one, two, or five, and there is a fossil species, *Fremontia lobata* Axelrod (Carnegie Inst. Wash. Publ. 516: 123, pl. 11, figs. 8, 10. 1939; Miocene, California).

Fremontia Torr. (1843), family Chenopodiaceae, had only one species. The name was suppressed five years later by Torrey himself (in Emory, Notes Mil. Recon. Ft. Leavenworth, Calif. 149. 1848) when he learned that it was the same as *Sarcobatus* Nees, published for the same species shortly before Torrey's name in a rare and costly work not known in the United States until several years later. As he was required to take up Nees's earlier name, Torrey (Am. Assoc. Adv. Sci. Proc. 4: 191. 1851) used the name *Fremontia* for another genus.

The name *Fremontia* Torr. (1853) was accepted for the genus of Sterculiaceae by Bentham and Hooker, Index Kewensis, Engler and Prantl, and Dalla Torre and Harms. It has been adopted also in nearly all the floras and manuals covering its area, including: Jepson, Man. Fl. Pl. Calif. 636. 1925; Sargent, Man. Trees No. Am. ed. 2, 749. 1922; Sudworth, U. S. Dept. Agr. Misc. Circ. 92 (Check List Forest Trees U. S.): 206. 1927; Munz, Man.

Southern Calif. Bot. 311. 1935; McMinn and Maino, Illus. Man. Pac. Coast Trees 291. 1935; Jepson, Fl. Calif. 2: 506. 1936; Van Dersal, U. S. Dept. Agr. Misc. Publ. 303 (Native Woody Plants of U. S.): 133. 1938; McMinn, Illus. Man. Calif. Shrubs 352-356, illus. 1939; Tidestrom and Kittell, Fl. Ariz. and New Mex. 124. 1941, and Harvey, Madroño 7 (A Revision of the Genus *Fremontia*): 100-110. 1943.

Fremontodendron Cov. was used in the following publications: Sudworth, U. S. Dept. Agr. Div. Forestry Bull. 14 (Nomenclature of the Arborescent Flora of U. S.): 272. 1897; Sudworth, U. S. Dept. Agr. Div. Forestry Bull. 17 (Check List Forest Trees U. S.): 86. 1898; Sargent, Silva No. Am. 14: 97. 1902 (in list of corrections, though *Fremontia* had been used in the text, vol. 1: 47, pl. 23. 1892); Sargent, Man. Trees No. Am. 676. 1905; Eastwood, Calif. Acad. Sci. Occas. Papers 9 (Handbook of Trees of Calif.): 69, pl. 48. 1905; Britton and Shafer, No. Am. Trees, 695. 1907; Sudworth, Forest Trees Pac. Slope 382. 1908; Dayton, U. S. Dept. Agr. Misc. Publ. 101 (Important Western Browse Plants): 115. 1931; and Kearney and Peebles, U. S. Dept. Agr. Misc. Publ. 423 (Flowering Plants and Ferns of Ariz.): 380. 1942.

Index Londonensis cites for the type species twenty-four illustrations under *Fremontia* and only four under *Fremontodendron*.

Only one species was known in this genus until 1918, when *Fremontodendron mexicanum* Davidson was published under the second generic name. Three additional species were described under *Fremontia* by Eastwood in 1934.

Harvey (Madroño 7: 100-110, illus. 1943) has accepted the name *Fremontia* for this genus in her recent taxonomic revision. She noted that this name was a later homonym and technically still under consideration by the special committee appointed by the Amsterdam Congress. Later homonyms were taken up alphabetically but a few letters, including F, were not finished in time for the Congress. As *Fremontia* is the name now used by a majority of taxonomists of Western United States, she preferred to await the results of the committee before making further nomenclatural changes.

The case for conserving *Fremontia* Torr. (1853) is not as strong as that for most of the names presented here, as the name is not in universal use and as the genus is a small one. However, it should be borne in mind that Torrey's procedure of honoring Frémont with a second genus when the first one was found invalid was in keeping with the customs of the times and correct under the rules until 1930. As it was the intention under the rules to conserve the later homonyms invalidated in 1930 and as this name was not considered at the 1935 Congress, *Fremontia* doubtless will be presented at the next one.

5402. (Cactaceae.) *Pilocereus* K. Schumann¹ in Engler and Prantl, *Natürl. Pflanzenfam.* 3 (6a): 179. 1894. Not *Pilocereus* Lem., *Cact. Gen. Nov. Sp. Hort. Monvill.* 6. 1839. Type species: *Pilocereus leucocephalus* Poselger, *Allg. Gartenz.* 21: 126. 1853.

Nomina rejicienda: none?

Pilocereus K. Schumann contains about forty species from Florida and Southwestern United States south to South America. This name was accepted with authorship attributed to Lemaire by K. Schumann in Engler and Prantl and by Dalla Torre and Harms.

Pilocereus Lem. was originally published as a new genus and segregate from *Cereus* Mill. with two species transferred from *Cereus*. *Pilocereus senilis* was described at length and *P. columna* mentioned. As so defined, *Pilocereus* Lem. is a direct synonym of *Cephalophorus* Lem. (*Cact. Aliq. Nov. Hort. Monvill.* p. xii. 1838; before May 5) and *Cephalocereus* Pfeiff., *Allg. Gartenz.* 6: 142. 1838 (May 5). All three names are based upon the same type species, *Cereus senilis* Haworth, and are synonyms (Article 51). As the third in this series of names, *Pilocereus* Lem. must be rejected (Article 16).

Some authors, such as Britton and Rose (*Cactaceae* 2: 25. 1920), regarded *Pilocereus* Lem. as a synonym of *Cephalocereus* Pfeiff. in accordance with the rules. Berger (*Mo. Bot. Gard. Ann. Repts.* 16: 69. 1905) applied the name as a subgenus, *Cereus* subg. *Pilocereus* Berger, and stated: "The name *Pilocereus* was originally employed for *Cephalocereus*. These were separated by Schumann, whilst *Pilocereus* was made the recipient of any strange-looking *Cereus*, especially those with hairy areoles. By degrees *Pilocereus* has become a very heterogeneous and senseless genus."

Thus, *Pilocereus* is now established in a different sense from that of Lemaire. It seems simplest to conserve the genus as emended by K. Schumann, as suggested by Werdermann (*Kakteenkunde* 1937: 130. 1937) or as emended by a later author, rather than to erect a new genus and make many transfers to it. If *Pilocereus* as a conserved genus is reunited with *Cephalocereus*, then the latter name still is used (Article 21, Note 3, and Article 56).

5403. (Cactaceae.) *Cephalocereus* Pfeiff., *Allg. Gartenz.* 6: 142. 1838 (May 5). Type species: *Cephalocereus senilis* (Haw.) Pfeiff.

Nomina rejicienda: *Cephalophorus* Lem., *Cact. Aliq. Nov. Hort. Monvill.* p. xii. 1838 (before May 5). Not *Cephalophora* Cav.,

¹ Werdermann's proposal to conserve *Pilocereus* and *Cephalocereus* has recently been discussed by Leon Croizat (*Notes on Pilocereus, Monvillea and Malacarpus with special reference to Colombian and Venezuelan species. Caldasia* 8: 251-260. 1943). He stated that the proper reference to *Pilocereus* Lem. *nom. conserv.* was not to Schumann in Engler and Prantl but to Lemaire's subdivision "C" in *Rev. Hort.* 1862: 426-430. 1862.

Icon. Descr. Pl. Hisp. 6: 79, pl. 599. 1801. *Pilocereus* Lem., Cact. Gen. Nov. Sp. Hort. Monvill. 6. 1839.

Cephalocereus Pfeiff., as interpreted at present, contains about eight species of Mexico, Bolivia, and Brazil. This generic name was accepted by Engler and Prantl and by Dalla Torre and Harms. Some authors, such as Britton and Rose (Cactaceae 2: 25. 1920), include in *Cephalocereus* the larger, segregate, and emended genus *Pilocereus* discussed above.

Under the International Rules (Article 70) *Cephalophorus* Lem. probably is considered a distinct name from *Cephalophora* Cav. and not an orthographic variant, or homonym, of the latter. Pfeiffer promptly erected the new name *Cephalocereus* because he regarded *Cephalophorus* Lem. as invalidated by the earlier *Cephalophora* Cav. As Pfeiffer's name has become established and *Cephalophorus* Lem. is not used at present, the question can be settled definitely merely by making *Cephalocereus* Pfeiff. a *nomen conservandum*, as Werdermann (Kakteenkunde 1937: 130. 1937) suggested.

5543. (Combretaceae.) *Bucida* L., Syst. Nat. ed. 10, 2: 1025, 1368. 1759. Type species: *Bucida Buceras* L., Syst. Nat. ed. 10, 2: 1025. 1759.

Nomen rejiciendum: *Buceras* P. Br., Civ. Nat. Hist. Jamaica 221, pl. 23, fig. 1. 1756.

This genus of about five species of the West Indies, Mexico, and Central America, is universally known as *Bucida* L. The name was accepted by Bentham and Hooker, Engler and Prantl, and Dalla Torre and Harms, but in Index Kewensis as a synonym of the later name *Terminalia* L. (Mant. Pl. 1: 27. 1767). The specific name of the type species was the same as Patrick Browne's generic name, which Linnaeus cited as a synonym. Thus, *Bucida* L. definitely is illegitimate under the present rules, Articles 16 and 60 (1), as an intentional change of name.

Buceras P. Br. was originally described with a single species in a work without binomials. The name "*Bucida Buceras*" appeared without description as a label of the figure and would not be a valid binomial (Article 68 [4]). *Buceras* P. Br. was restored by Hitchcock (Mo. Bot. Gard. Ann. Repts. 4: 85. 1893), but the name was not accepted widely. The later homonym *Buceras* Hall. ex All. (Fl. Pedem. 1: 313. 1785) is a synonym of *Trigonella* L. (Sp. Pl. 776. 1753; Gen. Pl. ed. 5, 338. 1754), family Leguminosae.

6410. (Styracaceae.) *Halesia* Ellis ex L., Syst. Nat. ed. 10, 2: 1044, 1369. 1759. Not *Halesia* P. Br., Civ. Nat. Hist. Jamaica 205, pl. 20, fig. 1. 1756. Not *Halesia* Loefl., Iter Hisp. 188. 1758; as synonym? Type species: *H. carolina* Ellis ex L., Syst. Nat. ed. 10, 2: 1044. 1759.

Nomina rejicienda: Hillia Boem. in Ludwig, Def. Gen. Pl. 71. 1760. Not *Hillia* Jacq., Enum. Pl. Carib. 3. 1760. ? *Halia* St. Lag., Ann. Soc. Bot. de Lyon 8: 175. 1881; *nomen nudum*. *Mohria* Britton, Gard. and Forest 6: 434. 1893 (Oct. 18). Not *Mohria* Sw., Synops. Fil. 159. 1806. *Carlomohria* Greene, Erythea 1: 236. 1893 (Nov. 3). Also Erythea 1: 246. 1893 (Dec. 1). *Mohrodendron* Britton, Gard. and Forest 6: 463. 1893 (Nov. 8).

Halesia Ellis, a genus of about three or four species in Eastern United States and one in Eastern China, is a later homonym of *Halesia* P. Br. In his first letter to Linnaeus in 1756 or 1757, John Ellis (in Smith, James Edward. Select. Corr. Linn. 1: 82. 1821) submitted the plant with the request that it be named *Halesia*, for Stephen Hales, because *Halesia* P. Br. was a synonym. This wish Linnaeus granted, as indicated in his letter to Ellis on May 30, 1759 (in Smith, James Edward. Select. Corr. Linn. 1: 124. 1821). *Halesia* Ellis was accepted by Bentham and Hooker, Index Kewensis, Engler and Prantl, Dalla Torre and Harms, Perkins (Pflanzenreich 30 [IV. 241]: 94. 1907), and modern authors.

Halesia P. Br., a later synonym of *Guettarda* L., (Sp. Pl. 991. 1753; L., Gen. Pl. ed. 5, 428. 1754), family Rubiaceae, was published in a work which did not use binomial nomenclature. Apparently no binomials were made in *Halesia* P. Br. or *Halesia* Loeffl., and these names were not adopted by later authors. Obviously there can be no confusion in rejecting two earlier homonyms nearly two hundred years old and in which no specific names were made.

Hillia Ludw. was proposed as a new name for *Halesia* Ellis because of the earlier *Halesia* P. Br. However, *Hillia* Jacq., an accepted genus of Rubiaceae with a few species, appearing in the same year, 1760, may have priority.

Except for a period of about twenty years after 1893, when *Mohrodendron* Britton was also in use, *Halesia* Ellis *ex* L. has been in universal usage. Certain American taxonomists following the American Code rejected it, because of the earlier homonym but later restored it because *Halesia* P. Br. was published without a type species and invalid under their rules. *Halesia* Ellis *ex* L. was correct under International Rules also until 1930, when Article 61, making later homonyms illegitimate, was adopted. Apparently the oldest available name for this genus is *Carlomohria* Greene, which was not in usage by other authors after its publication. This name has priority of five days over *Mohrodendron* Britton. *Halesia* Ellis *ex* L., like *Fremontia* Torr. (1753), was in the group of homonyms from D to K not considered at the 1935 Congress and subject to later action.

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